

CERVICOGRAPHIC CHANGES IN ECLAMPSIA AFTER LABOUR ACTIVATION

by

SHARDA JAIN

and

S. CHANDRA

SUMMARY

Fifty-eight cases who went into spontaneous labour and preserved early in labour were studied for cervicographic changes in eclampsia after activation of labour. Total duration of labour and latent and active phases were shortened significantly.

Introduction

Active management of labour is now widely used due to its well documented beneficial effect. A number of Indian studies are reported (Mittal and Rosario 1981; Ghosh *et al* 1980) on normal nulliparae, but there is no report on clinical behaviour of eclampsia cases to determine the role of active management on progress of labour by cervicographic analysis.

Material and Method

One study comprised of consecutive 58 eclampsia patients between 1.11.82 to 28.6.84 at Lady Hardinge Medical College and Smt. S. K. Hospital, who went into labour spontaneously and presented sufficiently early in labour. Patients requiring elective caesarean section or more than 3 cm cervical dilatation at admission or where labour was unsupervised were excluded from study. All were scored initially according to Bishop (1964) on the basis of vaginal examination findings and pro-

gress of cervical dilatation was determined by 4 hourly vaginal examination and recorded against time in the cervicograph. The course of labour was artificially augmented in all cases except in grand multipara by amniotomy and oxytocin infusion at rate of 2 mu|mt and titrated against the contractile response of the uterus upto a maximum of 64 mu|mt. The infusion was continued for a minimum period of 12 hours. Failure was defined if first stage of labour lasted more than 12 hours, or active labour was not established within 8 hours, or of cervical dilatation arrests for more than 2 hours in active phase. Gestation was confirmed by clinical examination of neonate at birth. Lytic cocktail therapy (1961) or calmpose therapy (1968) was administered as sedation. Thirty normal nulliparae, without accelerated labour as control. The chi square test, student 't' test and proportion test were used for statistical evaluation.

Results

Table I compares the profile of eclampsia cases. The groups were comparable as regards gestational age ($P > .05$) and

From: Lady Hardinge Medical College & Associated Smt. S. K. Hospital, New Delhi.

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TABLE I
Profile of Eclampsia Patients

	Nulliparae (N-36)	Multiparae (N-22)
Age	21.19 ± 2.66	26.27 ± 5.53
Period of gestation (weeks)	35.87 ± 2.81	35.04 ± 2.99
< 37 weeks	13	9
Bishop score	6.75 ± 2.30	6.04 ± 1.96

Bishop score ($P < 0.05$). There was significant number of preterm births among eclampsia patient, 36.11% nulliparae and 40.90% multiparae delivered prior to 37 weeks.

The delivery, cesarean section rates and incidence of protracted labour are summarised in Table II. Cesarean section was resorted for secondary arrest of cervical

dilatation in 2 cases. In another 2 cases, caesarean section was done for uncontrolled fits in one and fetal distress in another. Mid-forceps under general anaesthesia was indicated for positional dystocia (Deep transverse arrest) in 2.

Table III depicts the effect of active management on total duration of labour and duration of latent and active phase in eclampsia patient. The duration of different phases of active phase of cervicograph could not be tabulated separately due to rapid rate of cervical dilatation with accelerated labour. Total mean duration of labour was shortened to 40% (4.36 hr) and 36% of control (3.93 hr) in nulliparae and multiparae eclampsia patients respectively after combined acceleration. The differences observed were statistically highly significant ($P < 0.001$). All but 1

TABLE II
Mode of Delivery and Protracted Labour

	Nulliparae (N-36)	Multiparae (N-22)
Vaginal delivery	34	2
Caesarean section	2	20
Secondary arrest of cervical dilatation/ or protracted labour	1	1

TABLE III
Effect of Active Management on Labour

	Control	Eclampsia patients	
	(Nulliparae-30)	Nulliparae N-34	Multiparae N-20
1. Duration of labour (hr)	10.68 ± 3.35	4.38 ± 2.29	3.93 ± 2.90
2. Latent Phase (hr)	6.28 ± 2.15	2.22 ± 1.25	1.90 ± 1.41
3. Active phase (hr)	3.86 ± 1.32	1.81 ± 0.85	1.88 ± 1.48
4. Cervical dilatation cm/hr	2.33	4.37	4.66
5. Second stage (hr)	0.48 ± 0.44 A	0.41 ± 0.21 B	0.40 ± 0.38 C
	1,2,3	A vs B) $P < .001$ A vs C)	

patient delivered vaginally within 12 hours. From the mean duration of 6.28 hrs in control group. The latent phase decreased to 1/3rd of the control ($P < 0.001$), while corresponding reduction was 50% in the duration of active phase ($P < 0.001$). Likewise cervical dilatation in eclampsia patient hastened to nearly twice its rate in control group. Mean amount of oxytocin required was 2.14 ± 0.89 units.

Table IV shows inverse correlation of initial Bishop score with mean duration of labour, while Table V shows the response of accelerated labour in preterm and term eclampsia cases. Duration of labour as well as Bishop score in preterm cases were comparable to term cases and no statistical difference was noted ($P > 0.05$).

Discussion

The time honoured conventional treatment in eclampsia patient with spontaneous labour and in absence of any contraindication for vaginal delivery, is the acceleration of labour by low amniotomy with or without oxytocin infusion. Still prospective studies with regard to clinical behaviour in labour have been little reported both from developing and developed countries. The results of cervimetric data of accelerated labour in eclampsia by combined augmentation, are very gratifying. From the results, it is apparent that total duration of labour and its latent and active phase were shortened significantly ($P < 0.001$) in eclampsia cases irrespective of parity, when compared to control nulliparae patients

TABLE IV
Duration of Labour According to Bishop Score

Bishop Score	Duration of Labour (Hr)	
	Nulliparae	Multiparae
0-3	7.25 ± 0.75	8.33 ± 6.17
4	4.33 ± 0.47	4.5 ± 0
5	5.30 ± 1.85	3.73 ± 1.46
6	5.02 ± 3.67	3.60 ± 1.64
7	5 ± 3.18	3.60 ± 1.24
8	3.83 ± 2.24	4.1 ± 2.1
9-10	2.65 ± 1.43	1.16 ± 0.47

TABLE V
Response of Accelerated Labour in Preterm and Term Eclampsia Cases

	Nulliparae		Multiparae	
	Preterm (N-12)	Term (N-22)	Preterm (N-9)	Term (N-11)
1. Duration of labour (hr)	4.34 ± 1.97	4.15 ± 2.30	4.57 ± 3.90	3.48 ± 1.79
2. Bishop score	6.38 ± 2.55 A	6.56 ± 1.83 B	5.66 ± 2.21 C	6.30 ± 1.72 D

1. A vs B, C vs D, B vs D, A vs C, = N.S. at .05
2. A vs B, C vs D, B vs D, A vs C, = N.S. at .05

without attempted accelerated labour (Table III). However, Mittal and Rosario (1981) recorded much shorter mean duration of labour (3.04 hrs), latent phase (1.31 hr) and active phase (1.29 hrs) after medicosurgical augmentation in their series of 39 'normal' nulliparae, showing thereby that labour in eclampsia is not all that shorter than what we used to think.

Zuspan and Talledo (1968) did not find any labour problem in preterm eclampsia patients in their retrospective study of 51 cases and noted no difference in duration of labour according to length of gestation. This is confirmed in this prospective investigation (Table V). This study also confirmed the inverse correlation between initial Bishop score with mean duration of labour (Table IV).

The only objection that could be labelled against accelerated labour in eclampsia is the possibility of precipitation of fits from iatrogenic influence and water intoxication. There is reason to believe this as in Dennis and Hester's (1977) series of eclampsia, convulsion began during labour in one third and immediately after labour

in another third showing thereby that labour and delivery if not judiciously managed with anti-convulsants could be extremely hazardous from the point of view of precipitation of fits. However, accelerated labour in eclampsia, in our experience did not appear to increase the risk of convulsion or water intoxication since a very small dose of oxytocin was required. In fact an accelerated labour may be recommended as a routine since it markedly reduces the duration and thus the stress of labour in already compromised organ systems and eclampsia patient.

References

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